

**DETAILED ACTION**

***Election Acknowledged***

1. Applicant's election with traverse of the invention of Group I encompassing claims 1-20 and 31-33 in the reply filed on 02/01/2010 is acknowledged. The traversal is on the ground(s) that co-examination of Groups I-III would not pose a serious burden on the examiner as both Groups II and III depend from group I and would therefore necessarily require Group I. This is not found persuasive. As was pointed out in the lack of unity, the special technical feature was known at the time the invention was made. As such, the Groups of inventions are to be divided accordingly into their respective statutory groups for individual examination. Cross searching each of these different groups together would impose a search burden upon the Examiner, contrary to Applicants assertions.

2. The requirement is still deemed proper and is therefore made FINAL.

***Priority***

3. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

***Status of Application***

4. Claims 1-33 are pending, claims 21-30 are withdrawn as being directed to nonelected subject matter and claims 1-20 and 31-33 are presented for examination on the merits. The following rejections are made.

***Claim Rejections - 35 USC § 112***

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

**6. Claims 2 and 4-12 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.**

7. Claim 2, dependent from claim 1, recites the limitation "the accelerant is in an amount from 0 -1% w/w". However, claim 1 requires the presence of an accelerant whereas claim 2 encompasses no accelerant (0.0 % w/w) which is outside the scope of the claim from which it depends. There is insufficient antecedent basis for this limitation in the claim.

8. It's noted that claims 4-12 are rejected as being dependent from claim 2.

***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.

4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

11. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

12. **Claims 1-7, 13-19, 32 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kandathil et al. (US 5948424; published 09/07/1999) in view Flashinski et al. (US 6309986; published 10/30/2001).**

13. Kandathil is directed to a coiled insect fumigant. The composition is to comprise a pesticide (pyrethroid) in an amount of between 0.05-2.0% (w/w), accelerants such as kerosene in an amount of 0.05-5.0%, binders such as starch and tabu powder in amounts of 1.0-40.0%, combustible fuel material such as wood powder, coco shell powder and peanut shell powder each in an amount of 1.0-50.0%, dye (colouring agent) in an amount between 0.001-1.0%, perfume in an amount of 0.01-5.0%, a preservative in an amount of 0.01-2.0% and a flame retardant (urea) in an amount of 0.1-5.0% (see column 4, lines 1-15). Various pyrethroids are taught such as pyrethrum, resmethrin, bioallethrin and allethrin (see column 4, lines 35-40). The fumigant is in the shape of a coil. The fumigant may in addition to kerosene comprise burning aids such as potassium nitrate (see column 4, lines 45-50).

14. Kandathil fails to teach the fumigant as comprising bifenthrin (a pyrethroid).

15. Flashinski cures this deficiency. Flashinski is directed to a mat for dispensing volatile materials such as pesticides that kill mosquitoes. Exemplified pesticides include those belonging to pyrethroids such as bifenthrin, allethrin, bioallethrin, resmethrin and pyrethrum (see column 3, lines 60-65).

16. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Kandathil and Flashinski with a reasonable expectation for success in arriving at a composition comprising a substrate, bifenthrin in an amount between 0.008-0.25% by weight and an accelerant (0-1% by weight). While Kandathil fails to specifically teach bifenthrin as a potential mosquito killing pyrethroid, it was well known at the time the invention was made that bifenthrin was functionally equivalent to allethrin. Thus, any person of ordinary skill in the art would have been sufficiently motivated to use one in place of the other with a reasonable expectation for success in achieving a combustible stick capable of controlling mosquitoes. Further, the selection of a known material based on its suitability for its intended use supported a *prima facie* obviousness determination in *Sinclair & Carroll Co. v. Interchemical Corp.*, 325 U.S. 327, 65 USPQ 297 (1945). “Reading a list and selecting a known compound to meet known requirements is no more ingenious than selecting the last piece to put in the last opening in a jig-saw puzzle.” 325 U.S. at 335, 65 USPQ at 301.). With respect to the rate of bifenthrin release from the combustible stick, this is a property of the composition itself. More specifically, any composition with the ingredients in the amounts as instantly claimed would exhibit the same rate of release as that being claimed. Upon arriving at the instant obvious composition (substitution of bifenthrin for allethrin), any properties exhibited by the composition would be inherent and are not given any patentable weight over the prior art. Therefore, if the

prior art teaches/suggests the use of an identical structure or composition, the properties that applicant discloses and/or claims are necessarily present. With respect to the 'consisting of' claim, Kandathil provides a composition meeting the basic limitations, except for the inclusion of bifenthrin which would be obvious to include in view of Flashinski (see above). Therefore, the invention as a whole is *prima facie* obvious to one of ordinary skill in the art at the time the invention was made, as evidenced by the references, especially in absence of evidence to the contrary.

**17. Claims 8-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kandathil et al. (US 5948424; published 09/07/1999) in view Flashinski et al. (US 6309986; published 10/30/2001) as applied to claims 1-7, 13-19, 32 and 33 above, and further in view of Imai et al. (US 5846904; published 12/08/1998).**

18. Kandathil and Flashinski fail to teach a weight for the solid combustible fumigant composition.

19. Imai is directed to fumigant compositions. It's taught that fumigant preparations can range from 1-20 grams in view of fuming efficiency and the efficiency of work at the time of application (see column 9, lines 45-50).

20. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Kandathil, Flashinski and Imai with a reasonable expectation for success in producing a soible fumigant composition which has a weight between 1 and 20 grams. Imai teaches that the weight of the fumigant should be based on the efficiency of the fumigant composition as well as the need, or lack thereof, for prolonged

fumigant activity. Thus, the weight of the fumigant composition would be optimized/chosen based on the needs of the user. If prolonged fumigation were needed, a larger, more massive composition would be required rather than a smaller, less massive combustible composition. Therefore, the invention as a whole is *prima facie* obvious to one of ordinary skill in the art at the time the invention was made, as evidenced by the references, especially in absence of evidence to the contrary.

**21. Claims 1 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hoo (GB 2276547; published 05/10/1994) in view of Flashinski et al. (US 6309986; published 10/30/2001), Barford (US 2002/0194779; published 12/26/2002) and Tanner (US 4326854; published 04/27/1982), evidenced by Grimwood et al. (Coconut palm products, 1976, page 41).**

22. Hoo is directed to solid combustible mosquito repellent compositions. The composition may comprise charcoal powder from 40-80% by weight, plant powder 10-30%, gum powder from 7-15%, a starch glue at 7-15%, sodium benzoate (preservative) from 0.3-0.5% and pynamin forte (allethrin) EC from 0.05-0.4% (see page 7, lines 20-25).

23. Hoo fails to teach the composition as comprising bifenthrin (a pyrethroid) in the EC.

24. Flashinski cures this deficiency. Flashinski is directed to a mat for dispensing volatile materials such as pesticides that kill mosquitoes. Exemplified pesticides include those belonging to pyrethroids such as bifenthrin, allethrin, bioallethrin, resmethrin and pyrethrum (see column 3, lines 60-65).

25. Barford is directed to a firelog product that comprises a flammable cellulosic material, a binder and a bicarbonate. Exemplified cellulosic materials include peanut and other nut shells as well as charcoal powder (see [0018]).

26. Tanner is directed to a firelog that contains a cellulosic material. A cellulosic material includes nut shells coconut shells.

27. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Hoo, Flashinski, Barford and Tanner with a reasonable expectation for success in arriving at a composition consisting of coconut shells, wood powder, gum powder, and a bifenthrin EC. With respect to the inclusion of coconut shells in to the composition of Hoo, this is obvious. An ordinary person would recognize that charcoal powder is functionally equivalent to nut shells, such as coconut shells in its ability to serve as anflammable cellulosic additive to burning composition. However, Hoo includes charcoal powder for its smokeless benefit. Grimwood is cited as evidence that coconut shells provide a smokeless flame. Thus, knowing such, one would have been motivated to use one in place of the other while maintaining the special feature of Hoo. The amounts of the ingredients taught by Hoo overlap with Applicants instantly claimed ranges for their composition. In cases where claimed ranges overlap or lie inside ranges taught by the prior art a *prima facie* case of obviousness exists. See MPEP 2144.05. With respect to the use of bifenthrin, this too is obvious. While Hoo fails to specifically teach bifenthrin as a potential mosquito killing pyrethroid, it was well known at the time the invention was made that bifenthrin was functionally equivalent to allethrin. Thus, any person of ordinary skill in the art would have been sufficiently motivated to use one in place of the other (in the form of an EC) with a reasonable expectation for success in achieving a

combustible stick capable of controlling mosquito populations. Therefore, the invention as a whole is *prima facie* obvious to one of ordinary skill in the art at the time the invention was made, as evidenced by the references, especially in absence of evidence to the contrary.

**28. Claims 1 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bryant et al. (US 6440362; published 08/27/2002) in view Flashinski et al. (US 6309986; published 10/30/2001).**

29. Bryant is directed to a combustible fumigant for controlling mosquito populations. Bryant teaches a composition comprising sawdust in an amount of about 90% by weight, allethrin in amount of 0.4%, microcrystalline cellulose at 10% and potassium nitrate at 0.5% (see column 6, lines 1-10). Bryant suggests that pyrethroids such as allethrin, bioallethrin may be used in the fumigant (see column 4, lines 1-5). The fumigant is to be formed as interconnecting sticks (see Figure 4).

30. Bryant fails to teach the fumigant as comprising bifenthrin (a pyrethroid).

31. Flashinski cures this deficiency. Flashinski is directed to a mat for dispensing volatile materials such as pesticides that kill mosquitoes. Exemplified pesticides include those belonging to pyrethroids such as bifenthrin, allethrin, bioallethrin, resmethrin and pyrethrum (see column 3, lines 60-65).

32. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Bryant and Flashinski with a reasonable expectation for success in arriving at a composition comprising a substrate, bifenthrin in an amount between 0.002-0.6% by weight and an accelerant. While Bryant fails to specifically

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teach bifenthrin as a potential mosquito killing pyrethroid, it was well known at the time the invention was made that bifenthrin was functionally equivalent to allethrin. Thus, any person of ordinary skill in the art would have been sufficiently motivated to use one in place of the other with a reasonable expectation for success in achieving a combustible stick capable of controlling mosquitoes. Further, the selection of a known material based on its suitability for its intended use supported a *prima facie* obviousness determination in Sinclair & Carroll Co. v. Interchemical Corp., 325 U.S. 327, 65 USPQ 297 (1945). “Reading a list and selecting a known compound to meet known requirements is no more ingenious than selecting the last piece to put in the last opening in a jig-saw puzzle.” 325 U.S. at 335, 65 USPQ at 301.). With respect to the rate of bifenthrin release from the combustible stick, this is a property of the composition itself. More specifically, any composition with the ingredients in the amounts as instantly claimed would exhibit the same rate of release as that being claimed. Upon arriving at the instant obvious composition (substitution of bifenthrin for allethrin), any properties exhibited by the composition would be inherent and are not given any patentable weight over the prior art. Therefore, if the prior art teaches/suggests the use of an identical structure or composition, the properties that applicant discloses and/or claims are necessarily present. Therefore, the invention as a whole is *prima facie* obvious to one of ordinary skill in the art at the time the invention was made, as evidenced by the references, especially in absence of evidence to the contrary.

***Conclusion***

33. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kyle A. Purdy whose telephone number is 571-270-3504. The examiner can normally be reached from 9AM to 5PM.

34. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sharmila Landau, can be reached on 571-272-0614. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

35. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*/Kyle Purdy/  
Examiner, Art Unit 1611  
March 23, 2010*

*/Sharmila Gollamudi Landau/  
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